

COURSE DETAILS

Course and term: MBIO 1220 Essentials of Microbiology, Winter 2022

Meeting Time: 12:30 pm-01:20 pm MWF Remote Learning access provided through Zoom video conference platform. Zoom link details to be provided through class email.

INSTRUCTOR CONTACT INFORMATION

Instructor: Sabrin Bashar [Email: sabrin.bashar@umanitoba.ca]

Office Location: N/A

Office hours: Please email me to make appointments for virtual zoom meetings.

COURSE OBJECTIVE AND DESCRIPTION

An Introduction to the essential principles of microbiology and immunity, with emphasis on microbial diseases. By the end of this course the student should be able to identify the main differences between prokaryotic and eukaryotic cells and the characteristics of each, identify clinically important bacteria, fungi and viruses and their effects on the various organ systems and know the immune responses that are triggered and how they unfold.

COURSE TECHNOLOGICAL REQUIREMENTS

Required textbook: Nester's Microbiology: A Human Perspective. Anderson, Salm & Allen, 9th edition. (Available as E-text or print). Please note that the 10th / 8th edition is also acceptable. (Microbiology: An Introduction 11th Edition. Tortora, Funke, and Case. Pearson. may also be used as a substitute).

Computer technology: Students enrolled in the course must ensure they satisfy the following minimum technological requirements:

1. A computing device where one can create and edit documents,
2. An internet connection capable of streaming videos and downloading software, and
3. Access to a web-cam and microphone.

EXPECTATIONS AND POLICIES

Lecture format: In general, lectures via PowerPoint presentation will be delivered synchronously and recorded but note that instructor may post asynchronous video recordings in the event of technical disruptions or other unusual circumstances. After each class, the video recording will be posted on UMLearn. PDF files of lecture PowerPoint slides will be posted on UM Learn in advance for each class to provide students with a template to fill in with their own style of notetaking. As such, lecture slides are not complete, and therefore should not be used as a substitute for not attending a class. **Complete lecture notes will not be provided in the event of a missed class; it is your responsibility to catch up on the missed lecture material and notes.** Students are expected to attend all Zoom sessions and are encouraged to ask questions on the lecture material using the chat box function. To facilitate stable internet connection and ensure video quality, students are required to mute audio and video functions while the lecture is being given unless permitted to do so by the instructor. Students are advised that their voices and/or images, when unmuting and/or turning on video during, will be recorded unless the instructor is requested to halt recording by the student.

Note: With the current pandemic situation, the University followed public health guidance and asked courses to be delivered remotely where possible. The University continues to monitor the developments of the latest pandemic situation and will provide an update as to whether in-person activities can be safely offered as per public health guidelines after February 26. Like all other University-wide announcements, we anticipate that the activity plans (be they remote or in-person) for after February 26 will be made by email as well as posted on the University website. Please keep an eye on these two sources for the announcement over the next few weeks as well as direction from your course instructor.

Professional Conduct: It is recognized that these are unusual circumstances, and some adjustments need to be made when working virtually. At the same time, we do want to remind you that University policies, such as the **Respectful Work and Learning Environment policy**, still apply, as do basic expectations around how students will engage with each other and all members of the University. This means that when participating in classes, online meetings, etc., students are expected to behave professionally, and follow the same basic norms as they would in person, such as being properly clothed, not

being impaired and participating respectfully. **Essentially, if you wouldn't do it in an in-person class, don't do it in a virtual setting.** Please familiarize yourself with the [UM Respectful Work and Learning Environment \(RWLE\)](#) Section 2.5(c) of the [Student Non-Academic Misconduct and Concerning Behaviour Procedure](#) describes types of inappropriate or disruptive behaviour.

Emails: The University requires all students to activate an official U of M email account, which should be used for all communications between yourself and the university, including all your instructors. Emails sent to instructors from an email account other than the University of Manitoba account will automatically be deleted. Students are expected to practice professional email etiquette. All email communications should comply with the University's policy on electronic communication with students, which can be found at:

http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html. You can expect me to answer your email sent on a working day within 24-48 hours, or if sent on a holiday or weekend, within 72 hours.

Note: in-class/remote behaviour and/or emails that are perceived to be harassing or threatening in nature may be reported to the departmental Associate Head (Undergraduate Affairs) for assessment, and possibly to the Faculty of Science for potential disciplinary action.

Privacy Concerns: This course is delivered, in part, remotely using a video conferencing software platform, and you may be required to install University approved software on your device, and you may be required to have and use a webcam. During videoconferencing, your personal information, in the form of your name, image, and any questions or answers you pose during classes, may be collected under the authority of The University of Manitoba Act. The information you provide will be used by the University for the purpose of supporting student learning.

Exams for Winter term courses may be invigilated online. If your exam is invigilated online, you may be required to install University approved software on your computer and you may be required to have and use a webcam while taking the exam. During proctoring, your personal information, in the form of your name and image may be collected under the authority of The University of Manitoba Act. Your personal information will not be used or disclosed for other purposes, unless permitted by The Freedom of Information and Protection of Privacy Act (FIPPA). If you have any questions about the collection of your personal information, contact the Access & Privacy Office (tel. 204-474-9462), 233 Elizabeth Dafoe Library, University of Manitoba, Winnipeg, MB, R3T 2N2. If you have any questions regarding your online lectures or exams, please contact me.

Image Recordings: Screen shot capture and/or video recording of material presented by the instructor and/or classmate is strictly for **personal use only** due to copyright and/or privacy concerns. **Posting of images that include lecture material and/or instructor and/or classmates on the internet is strictly prohibited. Recording and/or distribution of exam material in any format is strictly prohibited.**

Academic Integrity: Guidelines are stated in your calendar regarding University policy with respect to academic dishonesty (particularly plagiarism and cheating) and behavior and absence from final exams. All work is to be completed independently unless otherwise specified. The Faculty of Science web page has detailed information regarding discipline (<https://catalog.umanitoba.ca/undergraduate-studies/policies-procedures/student-discipline-bylaw/>) along with a video message (<https://youtu.be/Ok-lilm4SeE>). Please read/watch and follow these guidelines and ask if you have any questions.

Student Accessibility Services: The University of Manitoba is committed to providing an accessible academic community. [Students Accessibility Services \(SAS\)](#) offers academic accommodation supports and services such as note-taking, interpreting, assistive technology, and exam accommodations. Students who have, or think they may have, a disability (e.g., mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services

520 University Centre

Phone: (204) 474-7423; Email: Student_accessibility@umanitoba.ca

Medical notes: If the student is unable to complete the work of any or all course components due to unforeseen circumstances (illness, family emergency, etc.), then the student must contact the instructor who, in consultation with the Department Head and Faculty of Science, will decide on alternative arrangements. Students who are unable to meet a course requirement due to medical circumstances are currently not required to submit medical notes. However, please note that circumstances that result in missing multiple course components (e.g. exams/classes) may require medical documentation (e.g., Authorized Withdrawal, Tuition Fee Appeal, Leave of Absence, or [accessibility-related accommodations](#)). Students are advised to speak with an [advisor in their faculty/college/school of registration](#) in this case.

Voluntary Withdrawal (VW)/Authorized Withdrawal (AW)/Limited Access Policy (LAP):

VW: Students can voluntarily withdraw (VW) from this course; please refer to the University website for the deadline date. By then, you will have received feedback to allow you to assess your progress and determine if you are achieving the grade, you are aiming for in this course. If you are unlikely to be successful in the course, or you are not achieving the grade that you are aiming for, you should consider a VW from the course. Students enrolled in the course after the VW deadline will be assigned a final grade. http://umanitoba.ca/u1/know_yourself/573.html

AW: At times medical or compassionate circumstances arise in a student's life that prevent them from performing as they would in normal circumstances. If you are in this position, please contact a Faculty academic advisor to discuss your options. Be prepared to provide documentation, which supports your situation.

http://www.umanitoba.ca/student/resource/student_advocacy/authorized-withdrawal/index.html

Limited Access Policy: The Senate Executive Committee approved, on behalf of Senate that section 2.5(a) of the Repeated Course Policy to be suspended indefinitely. Sec 2.5 refers to Limited Access. Suspension of LAP means that you can retake the course you have decided to VW in the next semester.

COURSE EVALUATION

Tentative examination schedule:

Midterm test 1	25%	Friday March 4th, 2022 (Time and Location: TBD)
Midterm test 2	25%	Friday April 1st, 2022 (Time and Location: TBD)
Final exam	50%	April 26- May 3, 2022; EXAM date will be scheduled by the Registrar's office.

****Note:** All examinations will be multiple choice format. The exams will be open book- you are free to use your course notes during midterms and final Exam. During this course it is expected that you work alone and that the exams are done by you and only you—sharing of information among students during an exam is considered academic misconduct and will result in an automatic failure in the course. In short, all exams will be held in accordance to stated Academic Integrity policies (<https://umanitoba.ca/student-supports/academic-supports/academic-integrity>).

Grading of Examinations: This grading scheme is an approximation only. Amendments to this scheme may be made depending on the final class average. These values will never be adjusted to the detriment of the student. They may only change to benefit the student. This scheme should be used only as a guide.

(<https://umanitoba.ca/registrar/grades>)

A+: 90-100 (Outstanding) **A:** 80-89 (Excellent) **B+:** 76-79 (Very Good) **B:** 70-75 (Good)
C+: 65-69 (Satisfactory) **C:** 55-64 (Adequate) **D:** 50-54 (Marginal) **F:** <50 (Failure)

Note that grades received from both Midterms will be visible on UMLearn prior to the **voluntary withdrawal date** (April 25, 2022).

Deferred Examinations: Deferred exams will not be administered. Failure to write a mid-term exam will result in the weight of the mid-term being transferred to the final exam. If one mid-term exam is missed the final exam will be prorated to 75%. Should both mid-terms be missed the maximum value of the final exam will be 75%. The weight of the missed mid-term exam will only be transferred to the weight of the final exam in the presence of a valid excuse.

IMPORTANT DATES

Tuesday February 22 to Friday February 25, 2022: Winter Term Break

Monday April 25, 2022: Last day for Voluntary Withdrawal; Last instructional day for winter 2022 courses

COURSE MATERIAL IN RELATION TO TEXTBOOK:

MBIO 1220 Course topics*

Textbook chapters

Part 1: The Life and Death of Microorganisms

Anderson 9th ed.

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| • Humans and the Microbial World | 1 |
| • The Molecules of Life | 2 |
| • Microscopy and Cell Structure | 3 |
| • Dynamics of Microbial Growth | 4 |
| • Control of Microbial Growth | 5 |
| • Microbial Metabolism: Fueling Cell Growth | 6 |
| • The Blueprint of Life and Bacterial Genetics | 7, 8 |

Part 2: Microorganisms and Humans

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|------------------------------------|----|
| • Viruses, Viroids and Prions | 13 |
| • The Innate Immune Response | 14 |
| • The Adaptive Immune Response | 15 |
| • Host-Microbe Interactions | 16 |
| • Immunologic Disorders | 17 |
| • Applications of Immune Responses | 18 |
| • Epidemiology | 19 |
| • Antimicrobial Medications | 20 |

Part 3: Infectious Diseases

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|----------------------------------|--------|
| • Respiratory System Infections | 21 |
| • Skin Infections | 22, 23 |
| • Digestive System Infections | 24 |
| • Blood and Lymphatic Infections | 23, 25 |
| • Nervous System Infections | 26 |
| • Genitourinary Tract Infections | 27 |

* Some topics may not be covered due to time constraints.

HEALTH CONCERNS RELATED TO THE COVID-19 PANDEMIC:

The University of Manitoba (the “UM”) is committed to maintaining a safe learning environment for all students, faculty, and staff. Should campus operations change because of health concerns related to the COVID-19 pandemic or other campus-wide emergency, it is possible that this course will move to a fully remote delivery format. Should campus operations change because of health concerns related to the COVID-19 pandemic or other campus-wide emergency, it is possible that this course will move to a fully remote delivery format. Should the instructor be required to stay at home for an extended period and an alternate instructor not be available, the course may move temporarily to a remote delivery format. In that instance, you may be provided with an asynchronous option to minimize the impact the change may have on your schedule.

PPE and Mask Wearing: In a face-to-face environment, our commitment to safety requires students to observe all physical distancing (2m) and personal protective equipment (PPE) guidelines set by the University (<https://umanitoba.ca/coronavirus>). **While on campus and in class, you must wear PPE (Personal Protective Equipment)** as stipulated in current [University policies, procedures, and guidelines](#). Students who fail to comply are subject to disciplinary action in accordance with the [Student Discipline Bylaw](#) and the [Non-Academic Misconduct and Concerning Behaviour Procedure](#). If you do not follow masking and other requirements you will be asked to leave the learning space and may only return to the class already in progress when you have complied with these requirements. Repeated issues will result in disciplinary action as previously noted. **Students should not eat or drink during class time.**

Illness: Remember: **STAY HOME IF YOU HAVE SYMPTOMS OR ARE ILL.** If you become sick or are required to self-isolate, you should notify your instructor by email so you can develop a plan to complete the course learning outcomes while you are absent. If you have symptoms, do not come to campus or any UM facilities. Complete the [self-assessment](#) on the Manitoba Public Health site and follow the guidelines, which may include booking a COVID-19 test.

What to do if you become ill while at UM:

1. Leave the classroom, lab, or workspace immediately. Continue to wear your mask while leaving the premises and/or while waiting for transportation.
2. Perform hand hygiene (soap and water or hand sanitizer) and avoid contact with others and minimize contact with the physical environment.
3. Once at home, complete the [MB self-assessment](#) and follow the directions that are provided.
4. Inform your instructor.
5. You must remain off campus and all UM facilities until cleared to return in accordance with self-assessment, testing results, or MB Health requirements.

Recommended transportation options (in order):

1. Drive yourself home.
2. Pick-up by family or friend – remember to keep your mask on and to distance as much as possible, and where possible, open a window to improve ventilation.
3. Pickup by taxi/Uber:
 - Remain masked and perform hand hygiene before entering the vehicle.
 - Avoid touching the inside of the vehicle
 - Keep your mask on for the duration of the ride
 - Where possible, open a window to improve ventilation.
4. Winnipeg Transit buses - Winnipeg Transit has indicated that individuals that are ill **must not use Transit.**